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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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04/10/2001

Robert Smart

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10/11/2006

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EXAMINER

SON, LINH L D

ART UNIT

PAPER NUMBER

2135

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,079

Applicant(s)

SMART ET AL.

Examiner

Linh LD Son

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-10, 12, 13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12, 13, and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responding to the Amendment received on 08/08/06.
2. Claims 1-4, 6-10, 12-13, and 15-16 are pending. Claims 5, 11, and 14 are canceled. Claims 17-18 are newly added claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6-10, 12-13, and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis et al, US/5633932 (Cited in PTO 892 dated 11/02/05), hereinafter "Davis".

5. As per claims 1-2, 9, and 12:

Davis discloses "A method of conducting, in relation to a print job, a printing process between an originating device and a printer, said method-comprising steps of:
initiating the printing process at the originating device for outputting the print job from the printer;

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encrypting, at the originating device, the print job with a public key (PUK) corresponding to a private key (Asymmetric key)” in (Col 4 lines 40-65, and Col 6 lines 20-33);

“suspending the printing process prior to outputting the print job from the printer” in (Col 5 lines 10-20);

“connecting a physical security key, which embodies the private key corresponding to the public key, to the printer” in (Col 5 lines 52-65);

“decrypting, at the printer, the print job with the private key embodied by the physical security key connected to the printer” in (Col 5 lines 62-65, and Col 6 lines 35-48); and

enabling, after decrypting the print job with the private key, the suspended printing process to output the print job from the printer” in (Col 5 lines 15-20, and Col 5 lines 34-65) [Col 5 lines 62-65 recites a challenge/response protocol ensures that the token is authentic by proving the token (smart card) is in possession of the private key corresponding to the header-specified public key. Such private can only be used to decrypt the sensitive encrypted information for printing (Emphasis added)].

Davis further teaches of the sending node or the application referring to as the originating device authenticating with the printer-key server for using a key to encrypting the information before starting the secure printing process in (Col 3 lines 40-55).

6. As per claims 3 and 6:

Davis discloses "A method according to claims 1 and 4, wherein a private key corresponding to a public key is embodied physically as the physical security key" in (Col 4 lines 39-55 and Col 5 lines 60-65)

7. As per claim 4:

Davis discloses "A system for conducting a printing process, in relation to a print job, between an originating device and a printer, wherein the originating device and the printer communicate over a network, said system comprising:

"a user interface, adapted to initiate, the printing process at the originating device for outputting the print job from the printer" in (Col 1 lines 30-45);

an encrypting module adapted to encrypt the print job with a public key corresponding to a private key (Asymmetric private key)" in (Col 4 lines 40-65, and Col 6 lines 20-33);

"at least one processor module, adapted to suspend the printing process prior to outputting the print job form the printer" in (Col 5 lines 10-20);

"a security key interface at the printer, adapted to connect a physical security key, which embodies the private key corresponding to the public key to the printer; and a decryption module adapted to decrypt, in association which the physical security key connected to the printer, the print job with the private key" in (Col 5 lines 62-65, and Col 6 lines 35-48),

wherein said at least one processor module is adapted to enable, after decrypting the print job with the private key, the suspended printing process to output

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the print job from the printer” in (Col 5 lines 15-20, and Col 5 lines 34-65) [Col 5 lines 62-65 recites a challenge/response protocol ensures that the token is authentic by proving the token (smart card) is in possession of the private key corresponding to the header-specified public key. Such private can only be used to decrypt the sensitive encrypted information for printing (Emphasis added)].

Davis further teaches of the sending node or the application referring to as the originating device authenticating with the printer-key server for using a key to encrypting the information before starting the secure printing process in (Col 3 lines 40-55).

8. As per claim 7:

Davis discloses “A computer program recorded on a computer-readable medium, the program comprising software code portions for performing the steps of claim 1” in (Col 3 lines 30-35).

9. As per claim 8:

Davis discloses “A computer readable medium storing a computer program, wherein said computer program comprises software code portions for performing the steps of claim 1” in (Col 4 lines 1-5).

10. As per claims 10 and 13:

Davis discloses “A system according to claims 9 and 12, wherein the print job specific security key information is input via a local user interface at a computer communicating with the originating device over a network” in (Col 4 lines 39-55, Col 6

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lines 52-65, and Col 6 lines 20-33), wherein the image data is stored at the originating device" in (Col 1 lines 30-55, and Col 4 lines 23-37).

11. As per claims 15 and 16:

Lang discloses "A method and a system according to claims 1 and 4, wherein the physical security key is specific to the print job" in (Col 10 lines 60-65).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, in view of Grimmer.

14. As per claims 17-18:

Davis discloses "A system of conducting, in relation to a print job, a printing process between an originating device and a printer, wherein the originating device and the printer communicate over a network, said originating device and the printer being designated as a first device and a second device" in (See abstract and Figure 1), said system comprising:

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"An apparatus for automatically establishing communication via a network between the first device and the second device, said first device and said second device forming, when communicating, a current chain of devices each having an associated profile, said apparatus constituting one of said first device and said second device in (Col 3 line 50) and comprising:

i) "determining means of determining a profile match between all successive pairs of devices in a chain of devices" in (Col 3 lines 45-55, and Col 4 lines 5-22);

wherein said apparatus comprises:

a) first establishing means of establishing, if the profile match between all the successive pairs of devices in the current chain of devices is not found, the communication between said first device and said second device by interposing at least one additional device, said interposing forming a second chain of devices including the devices in the current chain of devices and said at least one additional device, wherein

b) repeating means which, if a profile match is not found between all the successive pairs of devices in the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device, i) designating the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device as the current chain of devices, and (ii) repeating the first establishing means; and

c) second establishing means of establishing, if the profile match between all the successive pairs of device in the current chain of devices in found, the

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communication between said first device and said second device without interposing said at least one additional device, said system further comprises:

“a user interface (Col 1 lines 30-45), adapted to initiate the printing process at the originating device for outputting the print job from the printer;

encrypting module adapted to encrypt the print job with a public key corresponding to a private key” in (Col 4 lines 40-65, and Col 6 lines 20-33);

“at least one process module, adapted to suspend the printing process prior to outputting the print job from the printer” in (Col 5 lines 10-20);

“a security key interface at the printer, adapted to connect a physical security key, which embodies the private key corresponding to the public key to the printer” in (Col 5 lines 62-65, and Col 6 lines 35-48); and

“a decrypting module adapted to decrypt, in association with the physical security key connected to the printer, the print job with a private key,

wherein said at least one processor module is adapted to enable, after decrypting the print job with the private key, the suspended printing process to output the print job from the printer” in (Col 5 lines 15-20, and Col 5 lines 34-65) [Col 5 lines 62-65 recites a challenge/response protocol ensures that the token is authentic by proving the token (smart card) is in possession of the private key corresponding to the header-specified public key. Such private can only be used to decrypt the sensitive encrypted information for printing (Emphasis added)].

However, Davis does not specifically teach:

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a) first establishing means of establishing, if the profile match between all the successive pairs of devices in the current chain of devices is not found, the communication between said first device and said second device by interposing at least one additional device, said interposing forming a second chain of devices including the devices in the current chain of devices and said at least one additional device, wherein

b) repeating means which, if a profile match is not found between all the successive pairs of devices in the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device, i) designating the second chain of devices which comprises the devices in the current chain of devices and said at least one additional device as the current chain of devices, and (ii) repeating the first establishing means; and

c) second establishing means of establishing, if the profile match between all the successive pairs of device in the current chain of devices in found, the communication between said first device and said second device without interposing said at least one additional device;

Nevertheless, Grimmer teaches the "Method and Apparatus For retrieving X.509 Certificates From An X.500 directory" invention, which include an authentication method to establish a trustworthy connection between any two parties through a certificate agent. The first party authenticate with the Certificate agent to obtain the public key of the second party for establishing a transmission in (Col 5 lines 29-50). The certificate agent authenticates and pass the public key of the second party to the first party if the

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authentication information is in accordance with the profile. If not, the certificate agent crosscertificatepairs with other certificate authority (Col 6 lines 20-35).

Therefore, it would have been obvious at the time of the invention was made for one having ordinary skill in the art to modify Davis' invention to incorporate the implementation of multiple certificate authorities to authenticate and to obtain the public key information of the printer node to provide a flexible and detail authentication technique to provide a vast number of users.

Response to Arguments

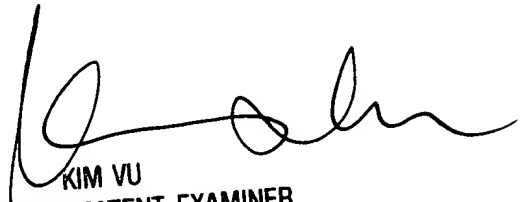
15. Applicant's arguments filed 08/08/06 have been fully considered but they are not persuasive.
16. As per remark on page 12, Applicant argues that *"Davis does not disclose or suggest that after a physical security key embodying a private key is connected to a printer, a print job is decrypted using the private key and a suspended printing process is enabled to output"*. Examiner respectfully disagrees with the Applicant. Davis actually teaches an implementation of a smart card (Col 5 line 53) in possession of a private key (Col 5 lines 60-65) connecting to a printer for authentication purpose and decrypt the encrypted file in the printer buffer memory (Col 5 lines 15-25), and output for printing (Col 6 lines 40-48). Therefore, Davis still clearly discloses the claimed invention.
17. Applicant amended claims 1, 4, and 12, and added claims 18-19, which necessitated a new ground of rejection.
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh LD Son whose telephone number is 571-272-3856. The examiner can normally be reached on 9-6 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh LD Son
Examiner
Art Unit 2135



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